

## **CLAIMS**

**1. (Previously Presented)** A computer-implemented method for processing video data comprising:

determining an ideal playback timing associated with the video data, the ideal playback timing determined at least in part by way of information encoded in the video data; and

if an actual playback timing of the video data lags the ideal playback timing, the lag resulting from a limited processing power of the computer implementing the method, varying a frame rate associated with the video data using a smoothing function to recover toward the ideal playback timing, wherein smoothly varying the frame rate includes controlling the frame rate using a frame-dropping algorithm that drops frames in the video data in accordance with the smoothing function.

**2. (Canceled)**

**3. (Previously Presented)** The computer-implemented method as recited in Claim 1, wherein controlling the frame rate includes:

computing a delay by comparing the actual playback timing with the ideal playback timing; and

if the delay exceeds a threshold value, determining that the actual playback timing lags the ideal playback timing.

4.       **(Original)**       The computer-implemented method as recited in Claim 3, wherein the threshold value accounts for ordinary system variations.
5.       **(Original)**       The computer-implemented method as recited in Claim 3, wherein the delay is computed by subtracting the ideal playback timing from the actual playback timing.
6.       **(Original)**       The computer-implemented method as recited in Claim 3, wherein the smoothing function incorporates the delay as a variable.
7.       **(Original)**       The computer-implemented method as recited in Claim 3, wherein the delay is computed as an average delay that includes an average of the delay associated with a current frame of the video data and at least a delay associated with a previous frame.
8.       **(Original)**       The computer-implemented method as recited in Claim 7, wherein the average delay is an average of delays associated with the current frame and a plurality of previous frames.
9.       **(Previously Presented)**   The computer-implemented method as recited in Claim 1, wherein the frame-dropping algorithm includes a rasterization algorithm.

**10. (Previously Presented)** The computer-implemented method as recited in Claim 1, wherein the frame-dropping algorithm includes if a current frame is a B-frame, dropping the current frame.

**11. (Previously Presented)** The computer-implemented method as recited in Claim 1, wherein the frame-dropping algorithm includes if a current frame is an I-frame, showing the current frame without further determination.

**12. (Previously Presented)** The computer-implemented method as recited in Claim 1, wherein the frame-dropping algorithm includes if a current frame is a P-frame, processing the current frame to obtain enough information for processing subsequent frames before dropping the current frame.

**13. (Previously Presented)** The computer-implemented method as recited in Claim 1, wherein the frame-dropping algorithm includes if the actual playback timing does not lag the ideal playback timing, overriding any determination to drop frames.

**14. (Original)** The computer-implemented method as recited in Claim 1, wherein the ideal playback timing is determined from a presentation clock.

**15. (Original)** The computer-implemented method as recited in Claim 14, wherein the presentation clock includes a filter configured to remove noise.

**16. (Original)** One or more computer-readable memories containing a computer program that is executable by a processor to perform the computer-implemented method recited in Claim 1.

**17. (Previously Presented)** A computer-implemented method for managing video data frame rates comprising:

determining delays associated with playback of frames of video data;

calculating an average delay from averaging the delays;

determining an ideal frame rate associated with the frames;

calculating a frame skip factor; and

varying the frame rates associated with the playback by applying a frame-dropping algorithm configured to determine whether to drop a current frame using the frame skip factor, wherein the frame-dropping algorithm includes:

if the frame skip factor is greater than the ideal frame rate, adding the ideal frame rate to an iterator; and

if the iterator is greater than or equal to the frame skip factor, subtracting the frame skip factor from the iterator and showing the current frame.

**18. (Original)** The computer-implemented method as recited in Claim 17, wherein the frame skip factor is calculated with a tolerance factor that accounts for variability in a system timer.

**19. (Original)** The computer-implemented method as recited in Claim 17, wherein the frame-dropping algorithm includes an iterative algorithm that varies the frame rates using a smoothing function that includes the frame skip factor.

**20. (Canceled).**

**21. (Previously Presented)** The computer-implemented method as recited in Claim 17, wherein the frame-dropping algorithm includes if the iterator is less than the frame skip factor, dropping the current frame.

**22. (Original)** The computer-implemented method as recited in Claim 21, wherein the frame-dropping algorithm includes:

if the iterator is less than the frame skip factor, determining whether the average delay has reached a significant percentage of a maximum delay; and

if so, showing the next I-frame subsequent to the current frame.

**23. (Original)** The computer-implemented method as recited in Claim 17, wherein priority is given to the execution of the computer-implemented method to improve the quality associated with the calculated frame rates.

**24. (Original)** One or more computer-readable memories containing a computer program that is executable by a processor to perform the method recited in Claim 17.

**25. (Previously Presented)** An apparatus comprising:

- means for determining delays associated with playback of frames of video data; means for calculating an average delay from averaging the delays;
- means for determining an ideal frame rate associated with the frames;
- means for calculating a frame skip factor; and
- means for controlling the frame rate using a frame-dropping algorithm that drops frames in the video data in accordance with the skip factor, wherein the frame-dropping algorithm includes:
  - if the skip factor is greater than the ideal frame rate, adding the ideal frame rate to an iterator; and
  - if the iterator is greater than or equal to the frame skip factor, subtracting the frame skip factor from the iterator and showing the current frame.

**26. (Canceled)**

**27. (Previously Presented)** The apparatus as recited in Claim 25, further comprising means for buffering the video data so that the frame-dropping algorithm is executing ahead of real time.

**28. (Previously Presented)** The apparatus as recited in Claim 25, further comprising means for incorporating a rasterization algorithm into the frame-dropping algorithm.

**29-32 (Canceled).**

**33. (Previously Presented)** An electronic device comprising:

a memory; and

a processor coupled to the memory, the processor being configured to:

determine delays associated with playback of frames of video data;

calculate an average delay from averaging the delays;

determine an ideal frame rate associated with the frames;

calculate a frame skip factor; and

vary a frame rate associated with the playback by applying a frame-dropping algorithm configured to determine whether to drop a current frame using the frame skip factor, wherein the frame-dropping algorithm includes:

if the frame skip factor is greater than the ideal frame rate, adding the ideal frame rate to an iterator; and

if the iterator is greater than or equal to the frame skip factor, subtracting the frame skip factor from the iterator and showing the current frame.

**34-35. (Canceled).**

**36. (Previously Presented)** The apparatus as recited in Claim 25,

wherein the frame skip factor is calculated with a tolerance factor that accounts for variability in a system timer.

**37. (Previously Presented)** The apparatus as recited in Claim 25, wherein the frame-dropping algorithm includes an iterative algorithm that varies the frame rates using a smoothing function that includes the frame skip factor.

**38. (Previously Presented)** The apparatus as recited in Claim 25, wherein the frame-dropping algorithm includes if the iterator is less than the frame skip factor, dropping the current frame.

**39. (Previously Presented)** The apparatus as recited in Claim 38, wherein the frame-dropping algorithm includes:

if the iterator is less than the frame skip factor, determining whether the average delay has reached a significant percentage of a maximum delay; and

if so, showing the next I-frame subsequent to the current frame.

**40-43 (Canceled)**